

Course offered by the PhD program in Civil, Chemical and Environmental Engineering a.y. 2025/2026 (41 cycle)

(course is open for participation of students from other PhD cycles or programs)

1. Title

Surface treatments for anti-corrosion anti-drug performances

2. Course Objectives and Description

The course aims to provide to future PhDs notions and fundamentals on surface treatments for anti-corrosion and anti-drug performances and methods for their characterization.

The course will include the following topics:

- 1. Surface treatments:** organic coatings, superhydrophobic surfaces, liquid infused surfaces
- 2. Electrochemical methods for the characterization of surface treatments:** Electrochemical Impedance Spectroscopy (EIS)
- 3. Physical methods for the characterization of surface treatments:** optical microscopy, pull off test, dry film thickness measurements
- 4. Laboratory tests on organic coatings:** optical stereomicroscope, EIS, pull off test, dry film thickness measurements.

3. Course Organization

The course, organized into a single module, will consist of classroom lessons and practical laboratory training. The course will be held in English.

4. Teacher

The course teacher will be Dr. Marina Delucchi.

5. Duration and credits

The course (7 hours – 1,5 credits) will consist of 2 theoretical lessons, 2 hours each, and 3 hours tutorial in the laboratory.

6. Activation mode and teaching period

The course will be held during the period February-May 2026 and a detailed calendar for lessons will be given to registered students.

7. Deadline for registration

There are no exact deadlines, those interested can write to marina.delucchi@unige.it

8. Final exam

The final exam will be an interview on the topics covered by the course. The students are requested to contact teacher by email to establish the date of the exam.